Mountaire Farms of Delaware, Inc. Hatchery Generator- EU 79- for Emergency Use

Mountaire Farms of Delaware, Inc.- Millsboro P.O. Box 1320 Millsboro, DE 19966

ATTENTION: Ms. Beth B. Sise

Environmental Manager

Dear Ms. Sise:

Pursuant to the 7 **DE Admin. Code** 1102 Section 2 and Section 11, approval by the Department of Natural Resources and Environmental Control is hereby granted for the installation of a 563 kW (755 BHP) Cummins 350DFEG (Tier 2) generator for emergency use with a 600 gallon sub-base fuel tank located at the Mountaire Farms of Delaware, Inc. facility in Millsboro, Delaware, in accordance with the application submitted on Form Nos. AQM-1, AQM-2, AQM-3.3, AQM-5, AQM-1001, AQM-1001A, AQM-1001K, AQM-1001N, AQM-1001V, AQM-1001W, AQM-1001Y, AQM-1001Y, AQM-1001BB, and AQM-1001CC dated July 14, 2010 signed by Paul Downes, President.

This permit is issued subject to the following conditions all of which are federally enforceable except Condition 6.1.2 and 2.4:

1. **General Provisions**

- 1.1 This permit expires on September 30, 2011. If the equipment covered by this permit will not be constructed by September 30, 2011, a request to extend this construction permit must be submitted by August 17, 2011. [Reference 7 DE Admin. Code 1102 Section 11.10 dated 6/11/06]
- 1.2 The project shall be constructed in accordance with the information described above. If changes are necessary, revised plans must be submitted and a supplemental approval issued prior to actual construction. [Reference 7 DE Admin. Code 1102 Section 11 dated 6/11/06]
- 1.3 Upon presentation of identification, the Company shall authorize officials of the Department to:
 - 1.3.1 Enter upon the Company's premises where a source is located or an emissions-related activity is conducted, or where records that must be kept under the terms

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and conditions of this permit are located. (This condition was taken from Permit: AQM-005/00004(R2)) [Reference 7 DE Admin. Code 1130 Section 6.3.2.1 dated 12/11/00]

- 1.3.2 Have access to and copy, at reasonable times, any record(s) that must be kept under the terms and conditions of this permit. (This condition was taken from Permit: AQM-005/00004(R2)) [Reference 7 DE Admin. Code 1130 Section 6.3.2.2 dated 12/11/00]
- 1.3.3 Inspect, at reasonable times, any record(s) that must be kept under the terms and conditions of this permit. (This condition was taken from Permit: AQM-005/00004(R2))

 [Reference 7 DE Admin. Code 1130 Section 6.3.2.3 dated 12/11/00]
- 1.3.4 Sample or monitor, at reasonable times, any substance or parameter for the purposes of assuring compliance with this permit or any applicable requirement. (This condition was taken from Permit: AQM-005/00004(R2)) [Reference 7 DE Admin. Code 1130 Section 6.3.2.4 dated 12/11/00]
- 1.4 This permit may not be transferred to another location or to another piece of equipment or process. [Reference 7 DE Admin. Code 1102 Section 7.1 dated 6/11/06]
- This permit may not be transferred to another person, owner, or operator unless the transfer has been approved in advance by the Department. A request for a permit transfer shall be received by the Department at least thirty (30) days before the date of the requested permit transfer. This request shall include:
 - 1.5.1 Signed letters from each person stating the permit transfer is agreeable to each person; and
 - 1.5.2 An Applicant Background Information Questionnaire pursuant to 7 <u>Del. C.</u>, Chapter 79 if the person receiving the permit has not been issued any permits by the Department in the previous five (5) years.

Approval (or disapproval) of the permit transfer will be provided by the Department in writing. [Reference 7 **DE Admin. Code** 1102 Section 7.1 dated 6/11/06 and 7 <u>Del. C.</u>, Chapter 79]

- 1.6 The Company shall, upon completion of the construction, installation, or alteration of each emission unit, request in writing that the Department transfer the terms and conditions of this construction permit into the 7 **DE Admin. Code** 1130 operating permit. [Reference 7 **DE Admin. Code** 1102 Section 11.5 dated 6/11/06]
- 1.7 The request shall contain the following information, and shall contain the following language from the responsible official: "I certify, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete." [Reference 7 DE Admin. Code 1102 Section 11.5.1 dated 6/11/06]
 - 1.7.1 A description of the compliance status, a complete schedule, and a certification of compliance for the equipment, facility, or air contaminant control device with respect to all applicable requirements, in accordance with 7 **DE Admin. Code** 1130 Section 5.4.8 and 5.4.9; and
 - 1.7.2 A statement of the methods used to determine compliance, including a description of the monitoring, record keeping, and reporting requirements and test methods.

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1.8 Upon satisfactory demonstration that the equipment, facility, or air contaminant control device complies with all applicable requirements and all terms and conditions of the construction permit, and not prior to the expiration of the EPA review period provided for in 7 **DE Admin. Code** 1102, Section 12.5, the Department shall transfer the specified terms and conditions to the 7 **DE Admin. Code** 1130 permit via the administrative amendment process specified in 7 **DE Admin. Code** 1130. [Reference 7 DE Admin. Code 1102 Section 11.5.2 dated 6/11/06]

- 1.9 The provisions of 7 **DE Admin. Code** 1102 Sections 2.1, 11.3, and 11.5 shall not apply to the operation of equipment or processes for the purpose of initially demonstrating satisfactory performance to the Department following construction, installation, modification, or alteration of the equipment or processes. The Company shall notify the Department sufficiently in advance of the demonstration and shall obtain the Department's prior concurrence of the operating factors, time period, and other pertinent details relating to the demonstration. [Reference 7 **DE Admin. Code** 1102 Section 11.12 dated 6/11/06]
- 1.10 The owner or operator shall not initiate construction, install, or alter any equipment or facility or air contaminant control device which will emit or prevent the emission of an air contaminant prior to submitting an application to the Department pursuant to 7 DE Admin. Code 1102, and, when applicable, 7 DE Admin. Code 1125, and receiving approval of such application from the Department; except as exempted in 7 DE Admin. Code 1102 Section 2.2. [Reference 7 DE Admin. Code 1102 Section 2.1 dated 6/11/06]

2. Emission Limitations

- The emergency generator shall meet the applicable emissions standards set by the *US EPA* for non-road engines. (This condition will be transferred to Permit: AQM-005/00004(R2))

 [Reference Title 40 CFR Part 89, Section 89.112(a), dated July 1, 2009]
- Particulate emissions from Emission Unit 79 shall not exceed 0.3 pound per million BTU heat input on a maximum two (2) hour average. (This condition will be transferred to Permit: AQM-005/00004(R2)) [Reference 7 DE Admin. Code 1104 Section 2.0]
- 2.3 No person shall cause or allow the emission of visible air contaminants and/or smoke from a stationary or mobile source, the shade or appearance of which is greater than twenty percent (20%) opacity for an aggregate of more than three (3) minutes in any one (1) hour or more than fifteen (15) minutes in any twenty-four (24) hour period. (This condition was taken from Permit: AQM-005/00004(R2)) [Reference 7 DE Admin. Code 1114 Section 2.1 dated 7/17/84]
- Odors from this source shall not be detectable beyond the plant property line in sufficient quantities such as to cause a condition of air pollution. (This condition was taken from Permit: AQM-005/00004(R2)) [Reference 7 DE Admin. Code 1119 Section 2.1 dated 2/1/81]

3. Operational Limitations

3.1 The emergency generator may only operate for an unlimited number of hours during an emergency as described in Condition 3.5. (This condition will be transferred to Permit: AQM-005/00004(R2)) [Reference 7 DE Admin. Code 1144 Section 4.1 dated 1/11/06]

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- The emergency generator may operate for an unlimited number of hours during testing or for maintenance purposes, pursuant to the definition of emergency generator as defined in 7 **DE Admin. Code** 1144, except as restricted by Condition 3.5. (This condition will be transferred to Permit: AQM-005/00004(R2)) [Reference 7 DE Admin. Code 1144 Section 4.2 dated 1/11/06]
- 3.3 The Company shall combust only No. 2 fuel oil (diesel) in Emission Unit 79. (This condition will be transferred to Permit: AQM-005/00004(R2)) [Reference 7 DE Admin. Code 1130 Sections 6.1.1 and 6.2.1 dated 12/11/00]
- Each shipment of diesel fuel or biodiesel blend received for use in the emergency generator shall have a sulfur content equal to or less than 0.05% by weight. (This condition will be transferred to Permit: AQM-005/00004(R2)) [Reference 7 DE Admin. Code 1144 Section 5.1 dated 1/11/06]
- 3.5 The emergency generator may only operate during an emergency as defined below: (These conditions will be transferred to Permit: AQM-005/00004(R2)) [Reference 7 DE Admin. Code 1144 Section 2.0 dated 1/11/06]
 - 3.5.1 An electrical power outage due to: a failure of the electrical grid; on-site disaster; local equipment failure; or public service emergencies such as flood, fire, natural disaster, or severe weather conditions (e.g. hurricane, tornado, blizzard, etc.); or
 - 3.5.2 When there is a deviation of voltage or frequency from the electrical provider to the premises of three percent (3%) or greater above, or five percent (5%) or greater below, the standard voltage or frequency.
- 3.6 The emergency generator shall not be operated for testing or maintenance purposes before 5 p.m. on any day which has a Ground Level Ozone Pollution Forecast or Particulate Forecast of "Code Purple," "Code Red," or "Code Orange" as announced by the Department. (This condition will be transferred to Permit: AQM-005/ 00004(R2)) [Reference 7 DE Admin. Code 1144 Section 4.4 dated 1/11/06]

The owner or operator may receive "Code Purple," "Code Red," and "Code Orange registering to the following email list: www.dnrec.state.de.us/DNREC2000/admin/maillists/maillists.html (This condition will be transferred to Permit: AQM-005/00004(R2))

- 3.7 Despite Condition 3.6, the emergency generator may be tested on any day that such testing is required to meet National Fire Protection Association (NFPA) or Joint Commissions on Accreditation of Healthcare Organizations (JCAHO) Standards. (This condition will be transferred to Permit: AQM-005/00004(R2)) [Reference 7 DE Admin. Code 1144 Section 4.5 dated 1/11/06]
- The emergency generator shall not be operated in conjunction with a voluntary demandreduction program or any other interruptible power supply arrangement with a utility, other market participant, or system operator (e.g. Delmarva Power, Delaware Electric Cooperative, PJM, etc.). (This condition will be transferred to Permit: AQM-005/00004(R2)) [Reference 7 DE Admin. Code 1144 Section 2.0 dated 1/11/06]
- The emergency generator shall be equipped with a properly functioning non-resettable hour metering device. (This condition will be transferred to Permit: AQM-005/00004(R2))

 [Reference 7 DE Admin. Code 1144 Section 6.1.2 dated 1/11/06]

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- 3.10 The emergency generator shall be serviced annually by a manufacturer's representative or by personnel trained to perform maintenance according to the manufacturer's recommendations. (This condition will be transferred to Permit: AQM-005/00004(R2)) [Reference 7 DE Admin. Code 1130 Sections 6.1.1 and 6.2.1 dated 12/11/00]
- 3.11 The owner or operator shall operate the emergency generator in conformance with the generator manufacturer's instructions, such as following maintenance and operating requirements to help minimize emissions. (This condition will be transferred to Permit: AQM-005/00004(R2)) [Reference 7 DE Admin. Code 1130 Sections 6.1.1 and 6.2.1 dated 12/11/00 and 7 DE Admin. Code 1144 Section 3.1.1 dated 1/11/06]
- 3.12 At all times, including periods of start-up, shutdown, and malfunction, the owner or operator shall, to the extent practicable, maintain and operate the facility, including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determinations of whether acceptable operating procedures are being used will be based on information available to the Department, which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. (This condition will be transferred to Permit: AQM-005/00004(R2)) [Reference 7 DE Admin. Code 1101 Section 3 dated 2/1/81 and 7 DE Admin. Code 1102 Section 11.6 dated 6/11/06]
- 3.13 All structural and mechanical components of the equipment covered by this permit and in use shall be maintained in proper operating condition. (This condition was taken from Permit: AQM-005/00004(R2)) [Reference 7 DE Admin. Code 1101 Section 3 dated 2/1/81 and 7 DE Admin. Code 1102 Section 11.6 dated 6/11/06]

4. Testing and Monitoring Requirements

- 4.1 The Department reserves the right to require that the owner or operator perform emission tests using methods approved in advance by the Department. (This condition will be transferred to Permit: AQM-005/00004(R2)) [Reference 7 DE Admin. Code 1117 Section 2.2 dated 7/17/84]
- 4.2 If the emergency generator is not certified by the manufacturer to meet the applicable emissions standards set by the US EPA for non-road engines (Title 40 CFR Part 89, Section 89.112(a), dated July 1, 2009), the owner or operator shall demonstrate compliance with 7 **DE Admin. Code** 1144 through testing using the applicable EPA Reference Methods, California Air Resources Board methods, or equivalent test methods approved in advance by the Department. (This condition will be transferred to Permit: AQM-005/00004(R2)) [Reference 7 DE Admin. Code 1144 Section 7.5.1 dated 1/11/06]
- The owner or operator shall perform visible emission testing as necessary. (These conditions will be transferred to Permit: AQM-005/00004(R2)) [Reference 7 DE Admin. Code 1130 Sections 6.1.3.1.2 and 6.2.1 dated 12/11/00]
 - 4.3.1 Once a month the emergency generator shall be observed for the presence or absence of visible emissions for at least fifteen minutes while the equipment is operating. Compliance with this condition shall be demonstrated by the maintenance of a bound log of visible emissions. If visible emissions are observed, the owner or operator shall take actions per manufacturer's recommendations to correct the problem as soon as possible. After corrective actions are taken, the owner or operator shall observe visible emissions when the equipment is next operated or tested. If visible emissions still persist, these steps (observe, correct, document) shall be repeated until visible emissions are not observed.

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- 4.3.2 The procedure outlined in Condition 4.3.1 does not require that the opacity of the emissions be determined. Since the procedure requires only the determination of whether visible emissions occur and does not require the determination of opacity levels, observer certification according to the procedures of EPA Reference Method 9 (40 CFR 60, Appendix A) is not required. However, it is necessary that the observer is educated on the general procedures for determining the presence of visible emissions. At a minimum, the observer must be trained and knowledgeable regarding the effects on visibility of emissions caused by background contrast, ambient lighting, observer position relative to lighting, wind, and the presence of uncombined water (condensing water vapor).
- The sulfur content of each shipment of diesel fuel or biodiesel blend shall be determined using the following sampling and testing methods as described in 40 CFR Section 80.580 (July 1, 2007): (This condition will be transferred to Permit: AQM-005/00004(R2)) [Reference 7 DE Admin. Code 1144 Section 7.5.2.1 and 7.5.2.2 dated 1/11/06]
 - 4.4.1 <u>Manual Sampling</u>: American Society for Testing and Materials (ASTM) method D4057-95 or D5842-95 if there is no contamination present that could affect the sulfur testing requirements; (This condition will be transferred to Permit: AQM-005/00004(R2)) [Reference 7 DE Admin. Code 1144 Section 7.5.2.1 and 7.5.2.2 dated 1/11/06]
 - 4.4.2 <u>Automatic Sampling</u>: ASTM method D4177-95; (This condition will be transferred to Permit: AQM-005/00004(R2)) [Reference 7 DE Admln. Code 1144 Section 7.5.2.1 and 7.5.2.2 dated 1/11/06]
 - 4.4.3 Sulfur Testing Method: ASTM method D2622-03; (This condition will be transferred to Permit: AQM-005/00004(R2)) [Reference 7 DE Admin. Code 1144 Section 7.5.2.1 and 7.5.2.2 dated 1/11/06]
 - 4.4.4 <u>Alternative Sulfur Testing Method</u>: ASTM methods D4294-03, D5453-03a, or D6920-03, provided that the refiner or importer test result is correlated with the appropriate method specified in Condition 4.4.3; or (This condition will be transferred to Permit: AQM-005/00004(R2)) [Reference 7 DE Admin. Code 1144 Section 7.5.2.1 and 7.5.2.2 dated 1/11/06]
 - 4.4.5 <u>Alternative Sulfur Testing Method</u>: Sulfur content may be determined using any test method approved under 40 CFR Part 80, Subpart I, Section 80.585. (This condition will be transferred to Permit: AQM-005/00004(R2)) [Reference 7 DE Admin. Code 1144 Section 7.5.2.1 and 7.5.2.2 dated 1/11/06]
- As an alternative to Condition 4.4, the oil may comply with the specification for Grades No. 1-D S15, 2-D S15, 1-D S500, or 2-D S500 as defined by ASTM D975, "Standard Specification for Diesel Fuel Oils." (This condition will be transferred to Permit: AQM-005/00004(R2)) [Reference 7 DE Admin. Code 1130 Section 6.1.3 dated 12/11/00]
- As an alternative to 4.4, the owner or operator may have the fuel in the emergency generator's associated storage tank certified by a third party laboratory after each shipment of fuel. This certification shall identify the percentage of sulfur (by weight dry basis) and the method used to determine the sulfur content. (This condition will be transferred to Permit: AQM-005/00004(R2)) [Reference 7 DE Admin. Code 1144 Section 6.1.5 dated 1/11/06]

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- 4.7 The owner or operator shall monitor the following information: (This condition will be transferred to Permit: AQM-005/00004(R2)) [Reference 7 DE Admin. Code 1130 Sections 6.1.3.1.2 and 6.2.1 dated 12/11/001
 - 4.7.1 The date, time, duration, and reason for each emergency generator start-up; and (This condition will be transferred to Permit: AQM-005/00004(R2)) [Reference 7 DE Admin. Code 1144 Section 6.1.3 dated 1/11/06]
 - 4.7.2 The monthly fuel usage (This condition will be transferred to Permit: AQM-005/00004(R2)) [Reference 7 DE Admin. Code 1144 Section 6.1.1 dated 1/11/06]
 - 4.7.3 The type of fuel combusted monthly in Emission Unit 79. (This condition will be transferred to Permit: AQM-005/00004(R2)) [Reference 7 DE Admin. Code 1130 Sections 6.1.3.1.2 and 6.2.1 dated 12/11/00]
- 4.8 Upon written request of the Department, the owner or operator shall, at the Company's expense, sample the emissions of, or fuel used by, an air contaminant emission source, maintain records and submit reports to the Department on the result of such sampling. (This condition will be transferred to Permit: AQM-005/00004(R2)) [Reference 7 DE Admin. Code 1117 Section 2.2 dated 7/17/84]

5. Record Keeping Requirements

- 5.1 The Company shall maintain, at a minimum, all of the information required by this permit for a minimum of five (5) years from such information's date of record. (This condition was modified from Permit: AQM-005/00004(R2)) [Reference 7 DE Admin. Code 1130 Section 6.1.3.2.2 dated 12/11/00]
- 5.2 Records of all test data shall be maintained. This data includes, but may not be limited to:
 - 5.2.1 The date, place and time of sampling measurements;
 - 5.2.2 The date(s) analyses were performed;
 - 5.2.3 The Company or entity that performed the analyses;
 - 5.2.4 The analytical techniques or methods used;
 - 5.2.5 The results of such analyses; and
 - 5.2.6 The operating conditions existing at the time of sampling or measurement. [Reference 7 **DE Admin. Code** 1130 Section 6.1.3.2 dated 12/11/00]
- The following information shall be recorded, initialed, and maintained in a log as follows: (This condition will be transferred to Permit: AQM-005/00004(R2)) [Reference 7 DE Admin. Code 1130 Sections 6.1.3.1.2 and 6.2.1 dated 12/11/00]
 - 5.3.1 The date, time, duration, and reason for each start-up of the emergency generator. The log shall include the dates and descriptions of inspections, testing, operator training, and maintenance performed; (This condition will be transferred to Permit: AQM-005/00004(R2)) [Reference 7 DE Admin. Code 1144 Section 6.1.3 dated 1/11/06]
 - 5.3.2 The total hours of operation for each month and the cumulative 12-month rolling period shall be calculated and recorded within 15 days of the end of each calendar

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month; (This condition will be transferred to Permit: AQM-005/00004(R2)) [Reference 7 DE Admin. Code 1144 Section 6.1.3 dated 1/11/06]

- 5.3.3 The total operating hours during which testing or maintenance occurred for each month and the cumulative 12-month rolling period shall be calculated and recorded within 15 days of the end of each calendar month; (This condition will be transferred to Permit: AQM-005/00004(R2)) [Reference 7 DE Admin. Code 1144 Section 6.1.3 dated 1/11/06]
- 5.3.4 The total fuel usage for each month and the cumulative 12-month rolling period shall be calculated and recorded within 15 days of the end of each calendar month; (This condition will be transferred to Permit: AQM-005/00004(R2)) [Reference 7 DE Admin. Code 1144 Section 6.1.1 dated 1/11/06]
- 5.3.5 The testing or maintenance performed on the generator. (This condition will be transferred to Permit: AQM-005/00004(R2)) [Reference 7 DE Admin. Code 1144 Section 6.1.3 dated 1/11/06]
- 5.3.6 Visible emissions records in accordance with Condition 4.3. (This condition will be transferred to Permit: AQM-005/00004(R2)) [Reference 7 DE Admin. Code 1130 Section 6.1.3.1.2 and 6.2.1 dated 12/11/00]
- The owner or operator shall maintain a copy of the fuel oil certification. The sulfur content of the diesel fuel or biodiesel must be included in the shipping receipt and fuel certification for each diesel fuel or biodiesel blend shipment. The fuel certification must identify the type of fuel delivered and the percentage of sulfur (by dry weight basis) and method used to determine the sulfur content. (This condition will be transferred to Permit: AQM-005/00004(R2)) [Reference 7 DE Admin. Code 1144 Section 6.1.4 dated 1/11/06]
- As an alternative to Condition 5.4, the owner or operator may have the fuel in the generator's associated storage tank certified by a third party laboratory after each shipment of fuel. This certification shall identify the percentage of sulfur (by weight dry basis) and the method used to determine the sulfur content. (This condition will be transferred to Permit: AQM-005/00004(R2)) [Reference 7 DE Admin. Code 1144 Section 6.1.5 dated 1/11/06]
- The owner or operator shall submit and maintain a record of proper initial notification as required by 7 **DE Admin. Code** 1144. (This condition will be transferred to Permit: AQM-005/00004(R2)) [Reference 7 **DE Admin. Code** 1130 Sections 6.1.3.1.2 and 6.2.1 dated 12/11/00]
- 5.7 The owner or operator shall maintain a copy of the emergency generator's manufacturer's maintenance and operating recommendations at the facility. (This condition will be transferred to Permit: AQM-005/00004(R2)) [Reference 7 DE Admin. Code 1130 Sections 6.1.3.1.2 and 6.2.1 dated 12/11/00]
- The owner or operator shall maintain a copy of the emergency generator's manufacturer's certification that the engine has been certified to meet the currently applicable US EPA non-road emissions standards (Title 40 CFR Part 89, Section 89.112(a), dated July 1, 2009). If such certification is not available, the owner or operator shall maintain records of any testing conducted pursuant to Condition 4.2. (This condition will be transferred to Permit: AQM-005/00004(R2)) [Reference 7 DE Admin. Code 1130 Sections 6.1.3.1.2 and 6.2.1 dated 12/11/00]
- 5.9 The owner or operator shall maintain a copy of the emergency generator's annual maintenance service at the facility. (This condition will be transferred to Permit: AQM-005/00004(R2)) [Reference 7 DE Admin. Code 1130 Sections 6.1.3.1.2 and 6.2.1 dated 12/11/00]

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6. Reporting Requirements

- 6.1 Emission in excess of any permit condition or emissions which create a condition of air pollution shall be reported to the Department:
 - 6.1.1 Immediately upon discovery and after activating the appropriate site emergency plan to the Department's 24-hour complaint line (1-800-662-8802) any deviation that poses an imminent and substantial danger to public health, safety, or the environment. (This condition was taken from Permit: AQM-005/00004(R2)) [Reference 7 DE Admin. Code 1130 Section 6.1.3.3.3.2 dated 12/11/00]
 - 6.1.2 Immediately upon discovery by calling the Environmental Emergency Notification and Compliant number, (800) 662-8802. (State Enforceable Only) (This condition was taken from Permit: AQM-005/00004(R2)) [Reference 7 DE Admin. Code 1130 Section 6.1.3.3.3.3 dated 12/11/00]
- 6.2 Discharges to the atmosphere in excess of any quantity specified 7 **DE Admin. Code** 1203 "Reporting of a Discharge of a Pollutant or an Air Contaminant" shall be reported, immediately upon discovery and after activating the appropriate site emergency plan, either in person or to the Department's 24-hour compliant line (1-800-662-8802). Discharges in compliance with this permit and excess emissions previously reported under Condition 6.1 of this permit are exempt from this reporting requirement. (This condition was modified from Permit: AQM-005/00004(R2)) [Reference 7 DE Admin. Code 1130 Section 6.1.3.3.3.5 dated 12/11/00 and 7 Del. C. Chapter 60, Section 6028]
- 6.3 In addition to complying with Condition 6.1 and 6.2 of this permit, any reporting required by 7 **DE Admin. Code** 1203 "Reporting of a Discharge of a Pollutant or an Air Contaminant" and any other reporting requirements mandated by the State of Delaware, the owner or operator shall for each occurrence of excess emissions, within thirty (30) calendar days of becoming aware of such occurrence, supply the Department in writing with the following information:
 - 6.3.1 The name and location of the facility;
 - 6.3.2 The subject source(s) that caused the excess emissions;
 - 6.3.3 The time and date of first observation of the excess emissions;
 - 6.3.4 The cause and expected duration of the excess emissions;
 - 6.3.5 For sources subject to numerical emission limitations, the estimated rate of emissions (expressed in the units of the applicable emission limitation) and the operating data and calculations used in determining the magnitude of the excess emissions; and
 - 6.3.6 The proposed corrective actions and schedule to correct the conditions causing the excess emissions. (This condition was modified from and will be transferred to Permit: AQM-005/00004(R2)) [Reference 7 DE Admin. Code 1112 Section 7.3 paragraphs 1, 2, 3, 4, and 5 dated 11/24/93]
- 6.4 If the emergency generator is to be reclassified from an emergency generator to a distributed generator, the owner or operator shall submit to the Department a letter stating that the generator is to be reclassified. Reclassification shall not occur without

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written permission from the Department. (This condition will be transferred to Permit: AQM-005/00004(R2)) [Reference 7 DE Admin. Code 1144 Section 1.3.3]

- 6.5 Each document submitted to the Department/EPA pursuant to this permit shall be certified by a Responsible Official as to truth, accuracy, and completeness. Such certification shall be signed by a Responsible Official and shall contain the language: "I certify, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete." (This condition was taken from Permit: AQM-005/00004(R2)) [Reference 7 DE Admin. Code 1130 Section 5.6 dated 11/15/93 and 6.3.1 dated 12/11/00]
- Each document submitted to the Department/EPA pursuant to this permit shall be sent to the following addresses: (This condition was taken from Permit: AQM-005/00004(R2))

Division of Air Quality	United States Environmental Protection	
Blue Hen Corporate Center	Agency	
655 S. Bay Road, Suite 5N	Director, Air Protection Division (3AP00)	
Dover, DE 19901	1650 Arch Street	
Attn: Program Administrator	Philadelphia, PA 19103-2029	
No. of Originals: 1 No. of Copies: 2	No. of Copies: 1	

7. Compliance Certification

- 7.1 Compliance with the terms and conditions of this permit shall be certified to the Department not later than the first day of February of each year unless the terms and conditions require Compliance Certifications to be submitted more frequently. Such certifications shall cover the previous calendar year and shall be submitted on Form AQM-1001BB. The Compliance Certification shall include the following information: (This condition was taken from Permit: AQM-005/00004(R2)) [Reference 7 DE Admin. Code 1130 Section 6.3.5.3.1 dated 12/11/00]
 - 7.1.1 The identification of each term or condition of the permit that is the basis of the certification. (This condition was taken from Permit: AQM-005/00004(R2)) [Reference 7 DE Admin. Code 1130 Section 6.3.5.3.1 dated 12/11/00]
 - 7.1.2 The Company's current compliance status, as shown by monitoring data and other information reasonably available to the Company. (This condition was taken from Permit: AQM-005/00004(R2)) [Reference 7 DE Admin. Code 1130 Section 6.3.5.3.2 dated 12/11/00]
 - 7.1.3 Such certification shall indicate whether compliance was continuous or intermittent during the covered period. (This condition was taken from Permit: AQM-005/00004(R2)) [Reference 7 DE Admin. Code 1130 Section 6.3.5.3.3 dated 12/11/00]
 - 7.1.4 The method(s) used for determining the compliance status of the Company, currently and over the reporting period as required by the monitoring, record keeping, and reporting required under Conditions 4, 5, and 6. (This condition was modified from Permit: AQM-005/00004(R2)) [Reference 7 DE Admin. Code 1130 Section 6.3.5.3.4 dated 12/11/00]
 - 7.1.5 Such other facts that the Department may require to determine the compliance status of the source. (This condition was taken from Permit: AQM-005/00004(R2))

 [Reference 7 DE Admin. Code 1130 Section 6.3.5.3.5 dated 12/11/00]

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7.2 Each compliance certification shall be submitted to the Department and EPA and shall be certified in accordance with Condition 6.5 of this permit. (This condition was modified from Permit: AQM-005/00004(R2)) [Reference 7 DE Admin. Code 1130 Section 6.3.5.4 dated 12/11/00]

Any additional information possessed by the Company that demonstrates noncompliance with any applicable requirement must also be used as the basis for Compliance Certifications. (This condition was taken from Permit: AQM-005/00004(R2)) [Reference 62 FR 8314 dated 2/24/97]

8. Administrative Conditions

- 8.1 The Company shall have available at the facility at all times a copy of this permit and shall provide a copy of this permit to the Department upon request. (This condition was taken from Permit: AQM-005/00004(R2)) [Reference 7 DE Admin. Code 1102 Section 8.1 dated 6/11/06]
- Failure to comply with the provisions of this permit may be grounds for suspension or revocation. [Reference 7 DE Admin. Code 1102 Section 6 dated 6/11/06]

Sincerely,

Paul E. Foster, P.E. Program Manager Engineering & Compliance Branch

PEF:JLF:MAS
F:\EngAndCompliance\MAS\mas10090.doc

pc: Dover (Title V) File Melanie Smith

TO: Paul E. Foster, P.E.

THROUGH: Joanna L. French, P.E.

FROM: Melanie A. Smith, P.E.

SUBJECT: Mountaire Farms of Delaware, Inc.- Millsboro

"DRAFT/PROPOSED" Permit: APC-2011/0008-CONSTRUCTION (FE)

Hatchery Generator- EU 79- for Emergency Use

DATE: August 11, 2010

BACKGROUND INFORMATION

Mountaire Farms of Delaware, Inc. applied for a Construction Permit on July 14, 2010 to install a 563 kW (755 bhp) Cummins 350DFEG (Tier 2) generator to provide emergency power for an expansion at the hatchery in Millsboro. The permit will be advertised for thirty days and concurrently reviewed by EPA for 45 days. After a construction to operation inspection, the permit will be administratively amended into the Title V Permit: AQM-005/00004 (Renewal 2).

The Company has not requested confidentiality.

The Company is located within the Coastal Zone. According to Section E(8) of the <u>Regulations</u> <u>Governing Delaware's Coastal Zone</u>, the construction and/or operation of a back-up emergency and stand-by source of power generation to adequately accommodate emergency industry needs when outside supply fails, shall be deemed not to constitute initiation, expansion or extension of heavy industry or manufacturing uses under these Regulations. A coastal zone permit is, therefore, not needed to install this generator.

The Company is current with their annual fees and has paid appropriate construction application fees. Proof of local zoning approval was previously submitted. The property is zoned HI-1 (Heavy Industrial).

TECHNICAL INFORMATION

The 563 kW (755 bhp) Cummins 350DFEG (Tier 2) emergency generator is fired on diesel fuel. (The generator is rated 350 kW for its standby power rating but the engine itself is rated 563 kW.) The generator is equipped with a 600 gallon double walled sub-base fuel tank. The maximum diesel fuel oil consumption rate is 24.1 gallons/hr or 3.35 MMBTU/hr.

Potential to Emit

Based on guidelines from the EPA Memorandum, *Calculating Potential to Emit (PTE) for Emergency Generators*, the maximum operating hours for the generator was taken to be 500 hours per year. The PTE was calculated based on manufacturer's emission data for total hydrocarbons, NOx, CO, and PM. The SOx (as SO₂) emission factor came from the Default SBCAPCD Diesel Engine Emission Factors Table from the Santa Barbara County Air Pollution Control District. This factor takes into consideration the sulfur content of the fuel oil. The applicable emission standards as set by the EPA were taken from 40 CFR 89.112 (Tier 2), dated July 1, 2009, and are included in the table below for comparison purposes.

Hourly emission rate= (Mfr. Spec., g/HP-hr) x (755 bhp) x (1 lb/453.59 g)

Pollutant	Tier 2 (g/HP-hr)	Manufacturer (g/HP-hr)	Emission Rate (PPH)	PTE (TPY)
THC		0.06	0.10	0.025
NOx		4.35	7.24	1.81

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Pollutant	Tier 2 (g/HP-hr)	Manufacturer (g/HP-hr)	Emission Rate (PPH)	PTE (TPY)
THC + NOx	4.8	4.41		
CO	2.6	0.54	0.90	0.22
PM	0.15	0.05	0.08	0.02
SOx		3.67 x 0.05	0.31	0.076

The potential to emit for each pollutant is below the major source threshold for Sussex County. The source is a natural minor.

SCREEN3 Modeling

The effects of air contaminant emissions on the public health, safety, and welfare were assessed using Department criteria. The criteria assume no adverse effect when the ratio of the Threshold Limit Value to the Maximum Downwind Concentration (TLV:MDC) is at least 100:1 at the nearest property line and beyond for each air contaminant released. The TLV of each air contaminant was obtained from the pamphlet, 2009 TLVs® and BEIs®, published by the American Conference of Governmental Industrial Hygienists (ACGIH). The MDC of each air contaminant was computed using SCREEN3 air dispersion modeling.

In utilizing SCREEN3, the diesel generator stack was treated as a point source. Point source variables in SCREEN3 are air contaminant emission rates (in lb/H), stack height (in ft), stack inside diameter (in ft), stack gas exit velocity (in ft/s) or air flow rate (in acfm), stack gas exit temperature (in °F), receptor height above ground level (in ft), and the rural/urban option. Values input for the stack parameters were the following:

Stack Height (ft)	Stack Diameter (ft)	Gas Flow Rate (acfm)	Exit Gas Temperature (°F)
9.25	0.75	1,145	810

The remaining input values were the default value of 70°F for ambient temperature, a receptor height above ground of 0 ft, and the urban option.

SCREEN3 predicts the MDC location for each air contaminant to occur 56 ft from the exhaust of the generator stack. The distance to the nearest property line is 800 ft. The MDC results from SCREEN3 adjusted to an 8-hour average along with the associated TLVs and the TLV:MDC for each contaminant are shown below:

Pollutant	TLV (8-hr, mg/m ³)	MDC (8-hr, mg/m ³)	TLV:MDC
THC	29	0.0080	3,600
NOx	5.65	0.5790	10
CO	28.64	0.0720	398
PM	10	0.0064	1,600
SOx	5.24	0.0244	215

Emissions of NOx did not meet the Department criteria that the TLV:MDC ratio is at least 100:1. Nitrogen oxide emissions were then compared to the Ambient Air Quality Standards (AAQS), as discussed in 7 **DE Admin. Code** 1103, Section 8.0. The annual arithmetic mean concentration of nitrogen dioxide shall not exceed 100 micrograms per cubic meter (100 μ g/m³). The annual arithmetic mean for NOx emissions from the generator is 83 μ g/m³; therefore, the arithmetic mean meets the AAQS.

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The TLV:MDC ratios for the other pollutants are above the 100:1 criteria established by the Department. As such, the public health, safety, and welfare are presumed to not be adversely impacted by the generator's emissions.

REGULATORY REVIEW

X 7 **DE Admin. Code** 1102: Permits

X 7 **DE Admin. Code** 1104: Particulate Emissions from Fuel Burning Equipment
 X 7 **DE Admin. Code** 1108: Sulfur Dioxide Emissions from Fuel Burning Equipment

7 **DE Admin. Code** 1112: Control of Nitrogen Oxide Emissions

X 7 **DE Admin. Code** 1114: Visible Emissions

X 7 **DE Admin. Code** 1119: Control of Odorous Air Contaminants7 **DE Admin. Code** 1120: New Source Performance Standards

7 **DE Admin. Code** 1124: Control of Volatile Organic Compound Emissions
 7 **DE Admin. Code** 1125: Requirements for Preconstruction Review, MNSR

X 7 **DE Admin. Code** 1130: Title V State Operating Permit Program

7 **DE Admin. Code** 1138: Emission Standards for Hazardous Air Pollutants for Source Categories

X 7 **DE Admin. Code** 1144: Control of Stationary Generator EmissionsX **40 CFR Part 80:** Regulation of Fuels and Fuel Additives

<u>7 DE Admin. Code 1102</u>, *Permits*, is applicable and states, "....no person shall initiate construction, install, alter or initiate operation of any equipment or facility or air contaminant control device which will emit or prevent the emission of an air contaminant prior to receiving approval of his application from the Department..." A construction permit is required.

<u>7 DE Admin. Code 1104.</u> Particulate Emissions from Fuel Burning Equipment, applies to the generator since the heat input is greater than 1 MMBTU/hr. Particulate emissions are limited to 0.3 pound per million BTU heat input, maximum 2-hour average, from any fuel burning equipment. Using the emission rate for particulate matter of 0.08 lb/hr and the rated heat input of 3.35 MMBTU/hr, the particulate emissions were calculated to be 0.024 lb/MMBTU, which is less than the applicable standard. This emission limit has been placed in the permit.

<u>7 **DE Admin. Code** 1108.</u> Sulfur Dioxide Emissions from Fuel Burning Equipment, applies to the emergency generator. According to Section 2.2, no person shall offer for sale, sell, deliver or purchase, or use in any fuel burning equipment, distillate fuel oil having sulfur content greater than 0.3 percent by weight. As discussed below, the fuel sulfur requirements of 7 **DE Admin. Code** 1144 are more stringent and will be placed in the permit instead.

7 **DE Admin. Code** 1112, *Control of Nitrogen Oxide Emissions*, is not applicable to this generator. According to Section 1.1, except as provided in Section 4, the provisions of this Regulation are applicable to major stationary sources of nitrogen oxides (NOx). Section 4 states any fuel burning equipment with a rated heat input of less than 15 MMBTU/hour is not subject to this Regulation.

<u>7 DE Admin. Code 1114</u>, *Visible Emissions*, applies and requires that "No person shall cause or allow the emission of visible air contaminants and/or smoke from a stationary or mobile source, the shade or appearance of which is greater than 20 percent opacity for an aggregate of more than three (3) minutes in any one (1) hour or more than fifteen (15) minutes in any twenty-four (24) hour period." Particulate emissions from the generator are 0.022 lb/MMBTU when combusting No. 2 fuel oil. The Company will be required to observe the generator for visible emissions once each month and take corrective actions as needed.

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<u>7 DE Admin. Code 1119</u>, Control of Odorous Air Contaminants, applies and requires that "No person shall cause or allow the emission of an odorous air contaminant such as to cause a condition of air pollution." Compliance shall be demonstrated based upon an initialed log documenting daily plant compliance with this emissions requirement, by the Company having no contradictory knowledge of any citizen odor complaint, and by a satisfactory review of complaint history by the Department. This emissions requirement has been placed in the permit along with the associated monitoring and record keeping requirements.

<u>7 DE Admin. Code 1120</u>, *New Source Performance Standards*, is not applicable to this generator. According to Section 2.1 of this Regulation, except as provided in Sections 9 and 11, the provisions of this Section are applicable to any fuel burning equipment of more than 250 MMBTU per hour heat input. Section 9 is applicable to electric utility steam generating units, and Section 11 is applicable to fuel gas combustion devices in petroleum refineries.

<u>7 DE Admin. Code 1124</u>, *Control of Volatile Organic Compound Emissions*, is not applicable to the generator. The generator does not emit more than 15 pounds per day of VOCs.

<u>7 DE Admin. Code 1125</u>, Requirements for Preconstruction Review, Minor New Source Review, applies to the facility. According to Section 2.1, the provisions of this Section shall apply to any person responsible for any proposed new major stationary source or any proposed major modification. For purposes of Section 2, "major stationary source" means any stationary source of air pollutants, which emits, or has the potential to emit a pollutant greater than the major source threshold for Sussex County. The proposed new project is not a major source and is, therefore, not subject to the requirements of Section 2 or Section 3 of this Regulation.

Section 4, *Minor New Source Review*, is not applicable. According to Section 4.0, the requirements of Section 4.2 of this Regulation shall apply to any person responsible for any proposed new stationary source, the construction of which:

- Was applied for, pursuant to 7 DE Admin. Code 1102, Section 11, after August 11, 2005, and
- Is subject to the construction, installation, or alteration requirements of 7 **DE Admin. Code** 1102, Section 2.1.3, and
- Is not subject to the requirements of Section 2 or Section 3 of 7 **DE Admin. Code** 1125, and
- Has a potential to emit of equal to or greater than 5 tons per year of VOCs, or NOx, or SOX, or PM_{2.5}, or combined HAPs.

The PTE is below the 5 TPY applicability thresholds for all pollutants.

<u>7 DE Admin. Code 1130</u>, *Title V State Operating Permit Program*, does apply to this natural minor source and the permit will be administratively amended to the Title V permit.

<u>7 DE Admin. Code 1138</u>, *Emission Standards for Hazardous Air Pollutants for Source Categories*, is not applicable to the source because the source is not a major source of HAPS.

<u>7 DE Admin. Code 1144</u>, Control of Stationary Generator Emissions, applies to the emergency generator according to Section 1.2. According to Section 3.1.1, the owner or operator of a new emergency generator shall operate the generator in conformance with the generator manufacturer's instructions, such as following maintenance and operating requirements to help minimize emissions. Based on the "Exhaust Emission Data Sheet" from the manufacturer, emissions from the outlet of the generator are: 0.06 g/HP-hr

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of THC, 4.35 g/HP-hr of NOx, 0.54 g/HP-hr of CO, and 0.05 g/HP-hr of PM. The generator is EPA certified to Tier 2 standards.

7 **DE Admin. Code** 1144 Section 4.0: Operating Requirements

According to Section 4.1, an emergency generator may operate for an unlimited number of hours during an emergency. Section 4.2 states that an emergency generator may operate during testing or for maintenance purposes, pursuant to the definition of an emergency generator, except as restricted by Section 4.4 of this Regulation.

According to Section 4.4, no generator shall be used during testing or for maintenance purposes before 5 PM on a day which has a Ground Level Ozone Pollution Forecast or Particle Pollution Forecast of "Code Purple," "Code Red" or "Code Orange" as announced by the Department.

As stated in Section 4.5, an emergency generator may be tested on any day that such testing is required to meet National Fire Protection Association (NFPA) or Joint Commission on Accreditation of Healthcare Organizations (JCAHO) standards, despite Section 4.4.

7 **DE Admin. Code** 1144: Fuel Requirements

In accordance with Section 5.1, each shipment of diesel fuel received for use in a generator on or after April 11, 2006, shall have a sulfur content equal to or less than 0.05% by weight. This condition has been put in the permit.

7 DE Admin. Code 1144 Section 6.0, Record Keeping and Reporting

The owner or operator shall maintain the following records:

According to Section 6.1.1, the owner shall monitor the monthly and rolling twelve (12) month amount of fuels consumed by the generator. As specified in Section 6.1.2, a non-resettable hour metering device shall be used by the owner to continuously monitor the monthly and rolling twelve (12) month operating hours for the generator. As specified in Section 6.1.3, monthly and rolling twelve (12) month operating hours during which testing or maintenance occurred shall be recorded as well as a brief description of each testing or maintenance performed.

According to Section 6.1.4, for each shipment of diesel fuel oil received for use in the generator, the Company shall maintain a shipping receipt and certification from the distributor which identifies:

- The type of fuel delivered; and
- The percentage of sulfur in the fuel by weight dry basis, and the method used to determine the sulfur content.

As an alternative to Section 6.1.4, the Company may have the fuel in the generator's fuel tank certified by a third party laboratory, after each shipment of liquid fuel. This certification shall identify:

- The type of fuel delivered; and
- The percentage of sulfur in the fuel by weight dry basis, and the method used to determine the sulfur content.

In accordance with Section 6.2, the owner shall maintain each record required by Section 6.1 for a minimum of five (5) years after the date the record is made. The owner may retain hard copies (e.g. paper) or electronic copies (e.g., compact discs, computer disks, magnetic tape, etc.) of the records. These records shall be promptly provided to the Department upon request.

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<u>7 DE Admin. Code</u> 1144 Section 7.0, Emissions Certification, Compliance, and Enforcement According to Section 7.3, the owner shall verify, by the compliance date specified in Section 1.3 that the generator complies with its emission requirements of Section 3.0 by submitting any or all of the following types of data to the Department for review:

- Any maintenance or operating requirements/instructions provided by the generator manufacturer;
- The type, or a description, of any emission control equipment used (supplied in Initial Notification);
- Emissions test data for the generator (such as a manufacturer's technical data sheet), any
 supporting documentation for any emission control equipment used, any supporting calculations,
 any quality control or assurance information, and any other information needed to demonstrate
 compliance with the requirements (supplied in application).

In accordance with Section 7.5.2.1, sulfur limits pursuant to Section 5.1 shall be determined using the applicable sampling and testing methodologies set forth in 40 CFR 80.580 (July 1, 2007).

<u>40 CFR Part 80</u>, Regulation of Fuels and Fuel Additives, is applicable to Low and Ultra Low Sulfur Diesel Fuel. Low and Ultra Low Sulfur Diesel Fuel are defined by the American Society for Testing and Materials in ASTM D975, "Standard Specification for Diesel Fuel Oils." The sulfur content of the diesel fuel shall not exceed 0.05% by weight sulfur (500 ppm) by 7 **DE Admin. Code** 1144. ASTM D975 identifies four grades of distillate fuel that specify a maximum sulfur content of 15 ppm and 500 ppm. They are Grades No. 1-D S15, 2-D S15, 1-D S500, and 2-D S500. These specifications have been placed in the permit.

RECOMMENDATIONS

I recommend that the attached Draft/Proposed Permit be advertised on August 15, 2010 and sent to EPA and affected states pursuant to the requirements of 7 **DE Admin. Code** 1102 Section 12.4 on August 13, 2010.

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pc: Dover File Melanie Smith